This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

1. (original) A multi-axis robot comprising an arm (A) for moving a tool (0) in space and actuated by electric motors (10), and a control system comprising:
   - a controller (C) which includes at least one power module (22) for supplying said motors (10) and at least one calculation and processing unit (26) used in particular to compute the path of the arm (A) and generate control signals for said modules,
   - link means (52, B) between said arm, said power module and said unit used at least to supply said motors from said module, characterized:
   - in that said link means (52, B) comprise a set of one or more structural buses ($B_1$, $B_2$) linking a control unit (30) associated with said calculation and processing unit (26), on the one hand, to said module (22) and, on the other hand, to at least one digital interface (14) with at least one position sensor (12) on said arm (A), and
   - in that this assembly forms a single functional bus enabling said module to be controlled by said calculation unit and feedback signals to be transmitted from said arm to said unit and/or said power module, at the frequency of the single functional bus.

2. (original) The robot as claimed in claim 1, characterized in that said single functional bus (B) is divided into at

least two structural buses ($B_1$, $B_2$) linking, for the first, said control unit (30) to said module (22) and, for the second ($B_2$) or subsequent buses, said control unit (30) to said interface (14).

3. (original) The robot as claimed in claim 2, characterized in that said first structural bus is a metallic bus ($B_1$), particularly made of copper.

4. (currently amended) The robot as claimed in ~~one of claims 2 or 3~~ claim 1, characterized in that said second structural bus or one of said other buses is an optical fiber bus ($B_2$).

5. (currently amended) The robot as claimed in ~~one of the preceding claims~~ claim 1, characterized in that said control unit (30) is linked to said calculation and processing unit (26) by a PCI type bus (28).

6. (currently amended) The robot as claimed in ~~one of claims 1 to 4~~ claim 1, characterized in that said control unit (30) is incorporated in said calculation and processing unit (26).

7. (currently amended) The robot as claimed in ~~one of the preceding claims~~ claim 1, characterized in that it comprises an identification and calibration card (16) incorporated in said functional bus (B).

8. (currently amended) The robot as claimed in ~~one of the preceding claims~~ claim 2, characterized in that the or each structural bus ($B_1$, $B_2$) is designed to be extended by additional connection means ($B'_1$, $B'_2$) to interact with at

least one external unit (12', 12", 14', 14", 22') processing information.

9. (currently amended) The robot as claimed in ~~one of the preceding claims~~ claim 1, characterized in that said link means also comprise a power conductor (52) linking said module or modules (22) to said arm (A), independently of said functional bus (B).

10. (currently amended) The robot as claimed in ~~one of the preceding claims~~ claim 2, characterized in that said first structural bus ($B_1$) is connected directly or indirectly to power modules (22), each dedicated to a motor of said robot (R).

11. (currently amended) The robot as claimed in ~~one of the preceding claims~~ claim 1, characterized in that said digital interface is an interface card (14) for computing the speed and/or the acceleration of the movement measured by the or each associated sensor (12), serializing its output signal and, where appropriate, digitizing the output signals of said sensor or sensors when they are analog.

12. (currently amended) The robot as claimed in ~~one of claims 1 to 10~~ claim 1, characterized in that said interface is incorporated in the associated sensor and is for computing the speed and the acceleration of the movement measured by said sensor, serializing its output signal and, where appropriate, digitizing the output signal of said sensor when it is analog.

13. (currently amended) The robot as claimed in ~~any one of the preceding claims~~ claim 1, characterized in that said interface is incorporated in said arm or placed at the foot of the arm.